REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks. Claims 14 and 8-18 are in the application. The specification and claims 1, 4 and 11-18 have been amended. Claims 5-7 have been canceled. No new matter has been added.

The Examiner objected to the specification for use of Trademarks. Applicants have labeled the trademarks with the proper registration information.

The Examiner objected to the Information Disclosure Statement for being handwritten. Applicants submit herewith a typewritten version of the 2 forms 1449 previously submitted.

The Examiner objected to the claims and rejected them under 35 USC 112, second paragraph for being indefinite. Applicants have amended claims 1, 4-7 and 11-18 in accordance with the Examiner's suggestions.

The Examiner rejected claims 1-18 under 35 USC 112, for not being sufficiently described in the specification and for not being enabled. Applicants have amended claim 1 to specify that

the bacterial strain is an E.coli strain and that the SAM-synthetase activity is increased by at least a factor of 2 as compared to the starting strain.

The examiner states that due to the fact that the specification only discloses (1) the E.coli and rat SAM sythetases of SEQ ID NO: 1 and 11(2) the production of SAM in E.coli, and (3) a single method to increase enzymatic activity one of ordinary skilled in the art would not recognize from the disclosure that the applicants were in the possession of the claimed invention. Applicants have amended claim 1 to recite that the bacteria strain is an e.coli strain. However, Applicants disagree with the Examiner's characterization of the enzyme. An enzyme is not necessarily defined by its structure and sequence. An enzyme is normally defined by its enzymatic activity. All enzymes of the same kind have the same enzymatic activity and catalyze the same reaction. The definition of the enzyme SAM synthetase in the application always includes the necessity that the enzyme activity is still present. This is mentioned on page 9, first paragraph of the specification. Claim 1 claims only a process where an E. coli having an increased SAM-synthetase activity compared to a starting strain is cultured and the secreted SAM is removed from the culture medium. The function as well as the test for the function of the

SAM-synthetase is known in the art and described in the application. Therefore, one of skill in the art should be able to produce an increased expression of any enzyme with SAM-synthetase activity in an E.coli strain. As long as an enzyme shows an increased SAM-synthetase-activity and this enzyme is used in an E.coli strain to make SAM, and this SAM is then isolated from the culture medium, the present invention is used. The finding, that in such a fermentation process the SAM can easily be isolated from the culture medium as long as an E.coli strain with increased SAM-synthetase activity is used is a main point of the present invention. To specify the expression "increased SAM-synthetase activity" more exactly, Applicants have amended claim 1 to recite that the SAM synthetase activity is increased at least by a factor of 2 into claim 1. This feature is disclosed on page 9, second paragraph of the application.

The Examples cited by the Examiner, that even an exchange of one conservative amino acid may lead to a change in function (Witkowski et al.) or that two naturally occurring enzymes having 98 % amino acid sequence identity may catalyze two different reactions (Seffernick et al.) are doubtless true, but they are not relevant for the present claims. The present claims and also the % homology wording always speak of SAM-synthetase. A SAM-synthetase is defined by its SAM-synthetase activity. If

this enzyme activity is not present, the protein is not SAM-synthetase any more. As long as the enzyme SAM-synthetase has a SAM-synthetase activity, the structural similarity of the enzymes is irrelevant. An enzyme with a different activity (as made according to Witkowski or Seffernick) is not within the present claims.

A comparison of the teaching of the present application with the points specified in In re Wands shows that no undue experimentation is required to make the present invention:

(1) There is no quantity of experimentation needed, to find a SAM-synthetase. Such enzymes are well known in the art. This is shown in the "prior art" part of the specification of the present application (see page 3, last 5 lines to page 4, end of first paragraph). The overproduction of SAM in E.coli is known in the art, too (see literature cited on page 4, last line of the application.

(2) The present application gives a very exact guidance because it teaches that a defined kind of microorganism which is well known in the art is fermented. The fermentation of E.coli is also known in the art. The microorganism used according to the invention must have an increased SAM-synthetase activity. Such strains and their production are known in the art. (See page 4, last paragraph of the application).

(3) The present application shows in 6 examples that the invention works.

(4) The nature of the present invention is a fermentation process of a microorganism. A fermentation process is a well known procedure in the art.

(5) The prior art teaches nearly all parts of the present invention except that SAM is secreted into the culture medium during the fermentation and that this SAM can be isolated from this culture medium.

(6) For one of skill in the art, the mutation process of an enzyme as well as the a transformation of a microorganism with a thus mutated gene and the testing routine to isolate such a microorganism is a standard procedure. The fermentation process of E.coli is a standard procedure, too.

(7) As said on pages 5 and 6 of the specification of the present application, it was not predictable that an E.coli with an increased SAM synthetase activity secretes SAM into the culture medium. But if an E.coli strain with an increased SAM synthetase activity secretes SAM into the culture medium, it is obvious for one of skill in the art that any E.coli strain with a increased SAM-synthetase activity of a different SAM-synthetase will also secrete SAM into the culture medium.

(8) Amended claim 1 is limited to a specific microorganism (E.coli), to a specific enzyme (SAM-synthetase) and to a specific

amount of overexpression (the SAM-synthetase activity is increased at least by factor 2). This claim is therefore exactly as broad as the invention disclosed in the present application.

Accordingly, Applicants submit that claims 1-4 and 8-18 are in compliance with 35 USC 112 and are patentable over the prior art. Early allowance of the amended claims is respectfully requested.

Respectfully submitted,

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Enclosure: 2 new forms 1449

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: COMMISSIONER OF PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450 on December 14, 2006.

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